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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,487	05/15/2001	Chun Hung Lin	4459-018A	8454

7590 12/10/2001
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EXAMINER

COLLINS, DEVEN M

ART UNIT PAPER NUMBER

2823

DATE MAILED: 12/10/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/854,487

Applicant(s)

LIN, CHUN HUNG

Examiner

D. M. Collins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-7 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-7 and 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 4-7 and 11-14 are rejected under 35 U.S.C. 102(b) as being unpatentable over Hwang et al. (5,710,458, dated 1/20/98).

Hwang et al. show the device as claimed in the Figures 1-7 with corresponding text. In re claim 4, Hwang et al. disclose a low pin count chip package 10 comprising:

a die pad 1 and a plurality of connection pads arranged at the periphery of the die pad 1 wherein the die pad 1 and the connection pads 2 have a concave profile;

a first metal coating 42 on the upper surface of the die pad 1 and the connection pads;

a semiconductor chip disposed on the die pad 1 and electrically coupled to the connection pads;

a package body 10 formed over the semiconductor chip and the connection pads in a manner that a portion of the die pad 1 and a portion of each connection pad extend outward from the bottom of the package body 10; and

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a second metal coating (col. 5, claim 2) on the lower surface of the die pad 1 and the connections pads.

In re claim 5, Hwang et al. disclose the low pin count chip package 10 from claim 4, wherein each of the first and the second metal coating comprises a layer of nickel covering the surface of the die pad 1 and the connection pads, and a layer of metal selected from the group consisted of gold and palladium covering the nickel layer. (col. 3, par. 3)

In re claim 6, Hwang et al. disclose the low pin count chip package 10 from claim 4 wherein the extension portions of the die pad 1 and each connection pad have a height of at least 2 mils.

In re claim 7, Hwang et al. disclose the low pin count chip package 10 from claim 4 wherein areas on the surfaces of the die pad 1 and each connection pad without protection of the package body have a third metal coating formed thereon thereby avoiding corrosion and contamination. (col.4, par. 9)

In re claim 11, Hwang et al. disclose a low pin count chip package 10 comprising:
a semiconductor chip;
a plurality of connection pads arranged at the periphery of the semiconductor chip wherein the connection pads 2 have a concave profile;
a first metal coating 42 on the upper surface of the connection pads;
the semiconductor chip having a plurality of bonding pads electrically coupled to the connection pads;

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a package body formed over the semiconductor chip and the connection pads in a manner that a portion of each connection pad extends outward from the bottom of the package body; and a second metal coating (col. 5, claim 2) on the lower surface of the connection pads;

In re claim 12, Hwang et al. disclose the low pin count chip package from claim 11 wherein each of the first and the second metal coating comprises a layer of nickel covering the surface of the connection pads, and a layer of metal selected from the group consisted of gold and palladium covering the nickel layer. (col. 3, par. 3)

In re claim 13, Hwang et al. disclose the low pin count chip package from claim 11 wherein the extension portion of each connection pad has a height of at least 2 mils.

In re claim 14, Hwang et al. disclose the low pin count chip package from claim 11 wherein areas on the surface of each connection pad without protection of the package body have a third metal coating formed thereon thereby avoiding corrosion and contamination. (col.4, par. 9)

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Deven M. Collins whose telephone number is (703) 305-7840. The examiner can normally be reached on Monday-Friday from 6:30 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M. Fahmy, can be reached on (703) 308-4918. The fax phone number for this Group is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

DMC

December 3, 2001



Wael Fahmy
WAEL FAHMY
SPE 2823